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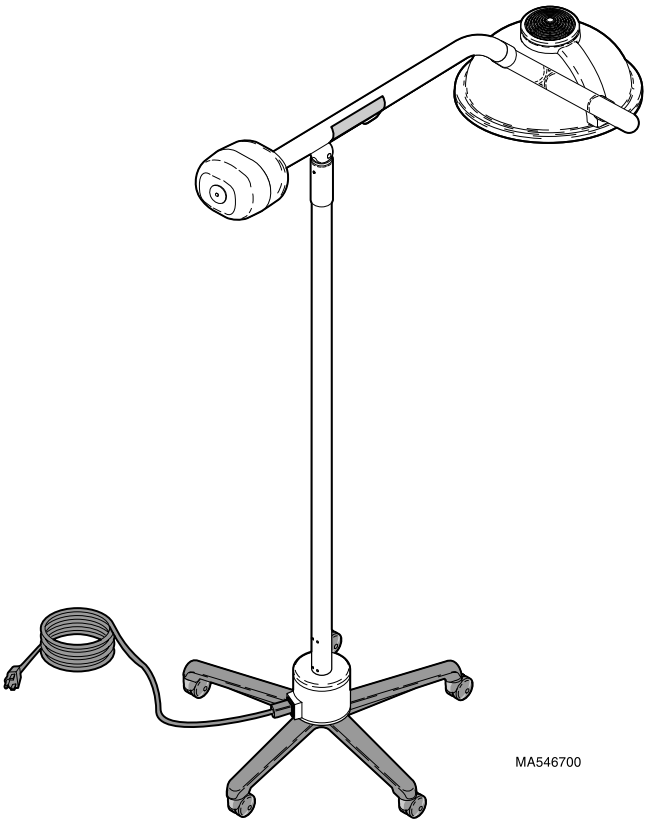
Installation and Operation Manual

355 Mobile Lighting System



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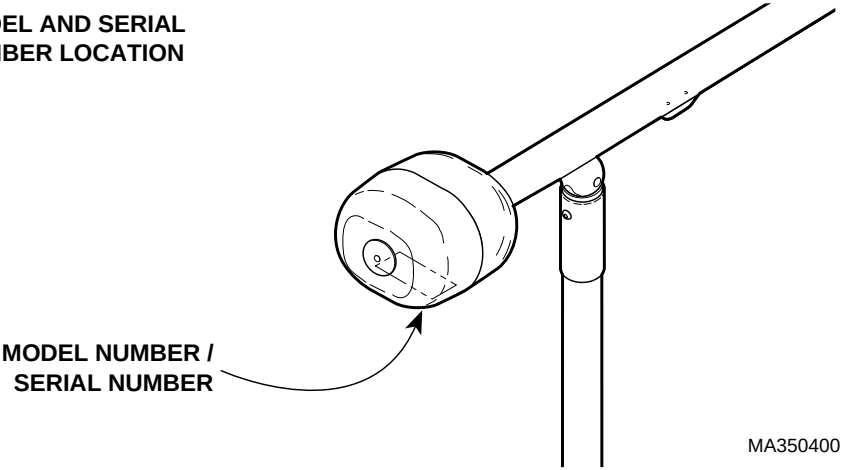
Owner's Product Identification

(information that you will need to provide for servicing - key information is highlighted)

Date of Purchase	***Serial Number***
Name of Owner / Facility / Department	***Model Number***
Name of Authorized Midmark / Ritter Dealer	Telephone # of Authorized Midmark / Ritter Dealer
Address of Authorized Midmark / Ritter Dealer	

MODEL AND SERIAL NUMBER LOCATION



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IMPORTANT INFORMATION

Scope and Purpose of This Manual

This manual covers complete instructions for the installation, operation, and normal care of the 355-022 & -023 Mobile Light System. It is intended that this manual be used by any medical personnel responsible for operating the mobile light system during a medical procedure or performing operator level maintenance.

Intended Use of Product

This product is intended for use in all medical environments where illumination is required for external examinations and procedures and where mobility of the product is desired.

Safety Instructions

The primary concern of Midmark is that this equipment is operated and maintained with the safety of the patient and staff in mind. To assure safer and more reliable operation:

- Read and understand this manual before attempting to install or operate the mobile light system.
- Assure that appropriate personnel are informed on the contents of this manual; this is the responsibility of the purchaser.
- Assure that this manual is located near the light.

Explanation of Safety Symbols and Notes

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. The DANGER symbol is limited to the most extreme situations.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION
Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

EQUIPMENT ALERT
Indicates an imminently or potentially hazardous situation which, if not avoided, will or may result in serious, moderate, or minor equipment damage.

NOTE
Amplifies an operating procedure, practice, or condition.

Indicates that the unit is rated: Type B, Applied Part.

Indicates that the operator's manual should be consulted for important information.

Indicates the presence of a dangerous voltage / shock hazard.

Indicates a fuse rating specification.

Indicates a protective eart ground.

Indicates product is fragile

Indicates proper shipping orientation.

Indicates that the product to be kept dry.

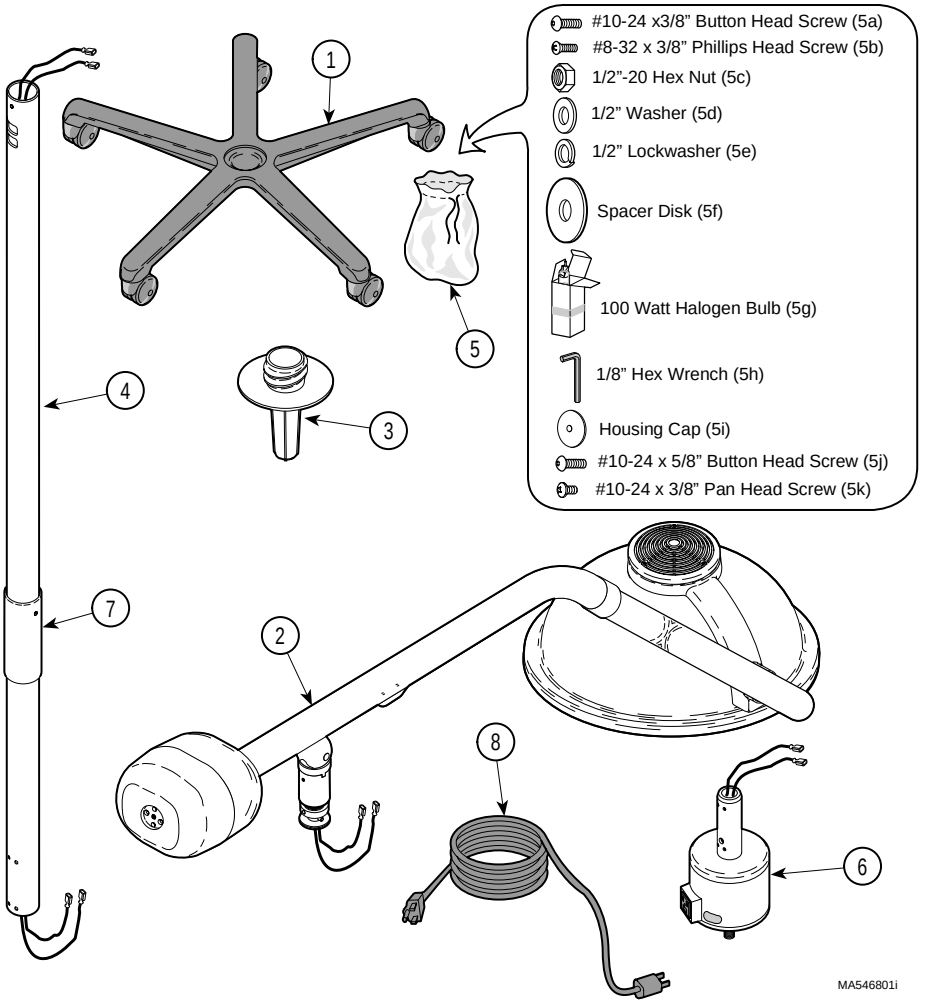
Indicates a hot surface.

Transportation and Storage Conditions

- Ambient Temperature Range:..... -30°C to +60°C (-22°F to 140°F)
- Relative Humidity..... 10% to 90% (non-condensing)
- Atmospheric Pressure ..... 500hPa to 1060 hPa (0.5 bar to 1.06 bars)
- This product contains glass, so it should be transported and stored with care to limit vibration and shocks.

INSTALLATION

Unpacking



EQUIPMENT ALERT
To avoid damaging the light components, do not use a knife or other sharp object to open the light's packaging.

Carefully remove the packaging from the light components. Then inspect the light components for any shipping damage. Report any damage to the shipping company and fill out a concealed damage report.

1. Cut banding and remove box lid from box.

2. Remove one base assembly (1) and inspect for damage. Check each individual caster for damage.

3. Remove one counterbalance assembly (2) and inspect for damage.

4. Remove one sterilizable handle (3) and inspect for damage.

5. Remove vertical tube (4) and inspect for damage. Check that pivot sleeve (7) is present.

6. Remove one cotton bag (5) and inventory contents; the following items should be included:
   5a. Six #10-24 x 3/8" Button Head Screw
   5b. One #8-32 x 3/8" Phillips Head Screw **(Used on Model Serial # MP1000 *thru* MP2051 & MR1000 *thru* MR1059)**
   5c. One 1/2"-20 Hex Nut
   5d. One 1/2" Flat Washer
   5e. One 1/2" Lockwasher
   5f. One Spacer Disk
   5g. One 100 W Halogen Bulb
   5h. One 1/8" Hex Wrench
   5i. One Housing Cap
   5j. One #10-24 x 5/8" Button Head Screw
   5k. One #10-24 x 3/8" Pan Head Screw **(MP20052 & MR1060 *thru* Present)**

   [Fastener Installation Kit number (002-0696-00) includes all components listed above.]

7. Remove one transformer housing assembly (6) and inspect for damage.

8. Remove one power cord and inspect for damage.

Necessary Tools

- 3/4 in. Socket and Ratchet Driver
- Phillips Screwdriver (medium point)

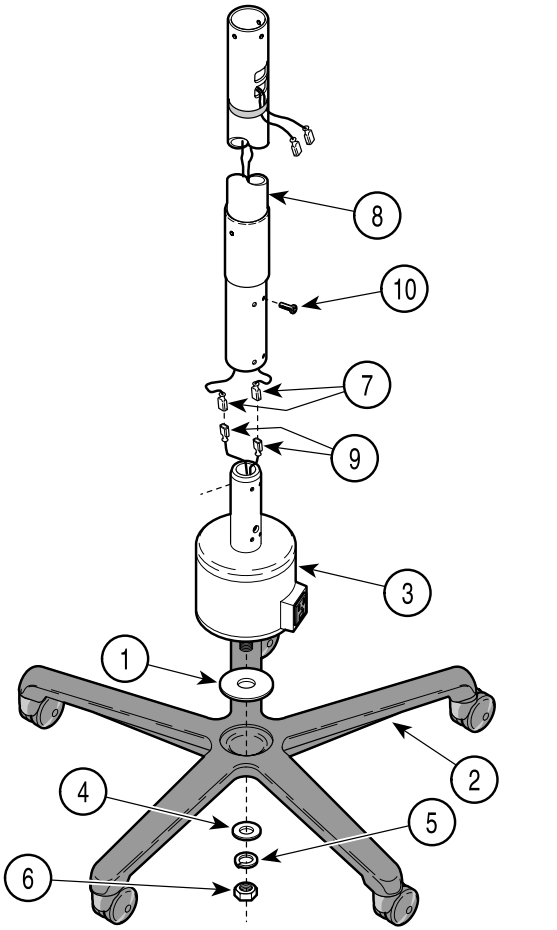
Vertical Tube Installation

1. Install spacer disk (1) on center hole of base assembly (2).

2. Using 3/4 in. socket and ratchet, install transformer housing assembly (3) on base assembly (2) and secure with washer (4), lockwasher (5), and nut (6). Tighten nut (6) to 35 - 45 ft-lbs (47.5 - 61.0 N•m).

3. Remove tape securing wires (7) to vertical tube (8); then connect brown wire (7) to brown wire (9) and blue wire (7) to blue wire (9).

4. Using a 1/8 in. hex wrench (supplied), install vertical tube (8) on mounting tube of transformer housing assembly (3) and secure with four screws (10).



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Counterbalance Assembly Installation

EQUIPMENT ALERT

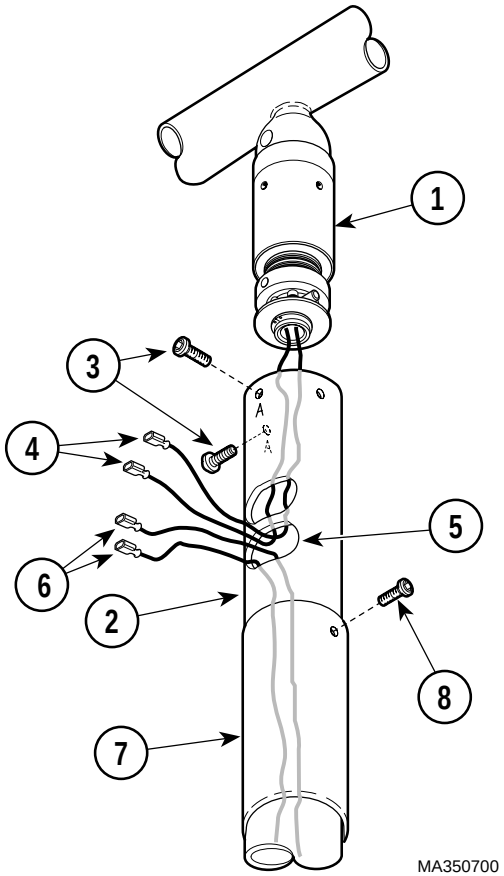
Make sure all three screw holes on the vertical tube (2) are aligned with the three screw holes on the ball pivot housing of the counterbalance assembly before installing any screws. Failure to do so could result in damage to screw threads.

1. Align three screw holes; then insert ball pivot housing of counterbalance assembly (1) into vertical tube (2) and secure with two #10-24 x 3/8" black oxide button head screws (3), making sure to install the two screws (3) into the screw holes marked with an "A". Tighten screws with 1/8 in. hex wrench (supplied).

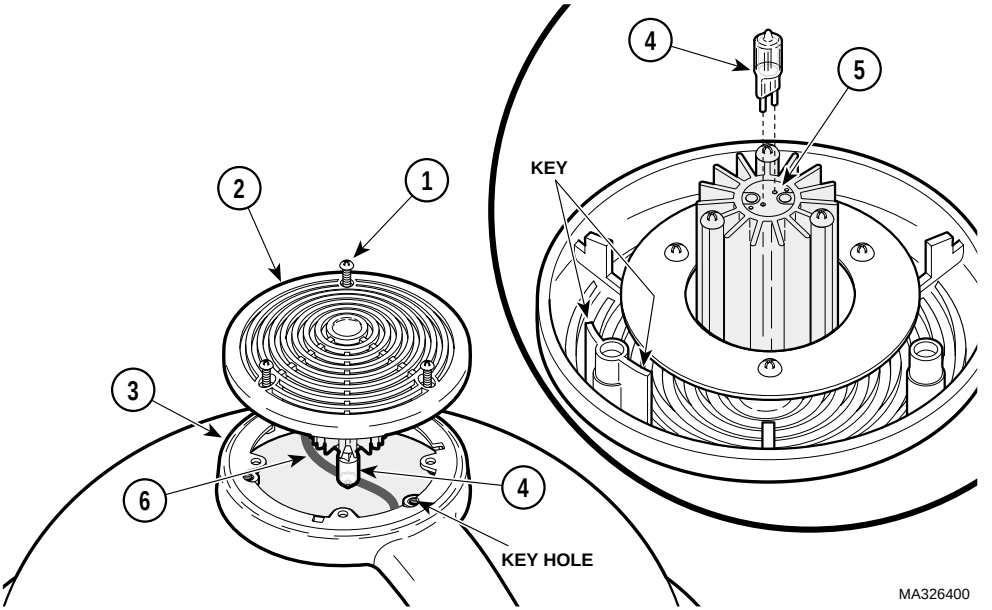
2. Pull two wires (4) from counterbalance assembly (1) through the bottom access window (5).

3. Connect the brown wire (4) to brown wire (6) and blue wire (4) to blue wire (6). Push wires (4 and 6) inside the bottom access window (5).

4. Slide ball pivot sleeve (7) up into position and secure with one # 10-24 x 3/8" (New Units Only) pan head screw (8) (Refer to Page 5).



Bulb Installation / Replacement Procedure



EQUIPMENT ALERT

Turn the ON / STANDBY switch to STANDBY "⏻" before replacing bulb. Otherwise, electrical shock or hand burns could result. Also, move the lighthead as far as possible from the exam / surgical site to prevent contaminants from falling onto the exam / surgical site. Do not try to remove the bulb until the unit is allowed to cool. Otherwise, burns to hands and fingers will result.

1. Turn the ON / STANDBY switch to STANDBY "⏻". Move lighthead away from the exam / surgical site. Lower the lighthead to gain access for bulb removal.

NOTE

Screws (1) are captive screws. Only loosen captive screws; do not try to remove them.

2. Loosen three captive screws (1) and separate top cap (2) from support arm pivot (3).

NOTE
If new unit, remove packing material from inside of lighthead.

3. Allow the bulb (4) to cool (usually for several minutes). Grasp the bulb (4) and pull the bulb from bulb socket (5). Discard the old bulb while taking care not to break the glass capsule of the bulb.

WARNING (*)
The maximum allowable bulb wattage which can be used in this light is 100 Watts. There is a risk of fire or equipment damage if 100 Watt limit is exceeded. Use Midmark P/N: 015-1357-00.

NOTE
Halogen bulbs are sensitive to body oils. Be sure not to touch the glass portion of the bulb during relamping or cleaning. Body oils create a hot spot on the bulb and may cause the bulb to burn out prematurely. If the glass portion of the bulb is handled, wipe with a clean, soft, lint free cloth. Wipe with alcohol and pat dry.

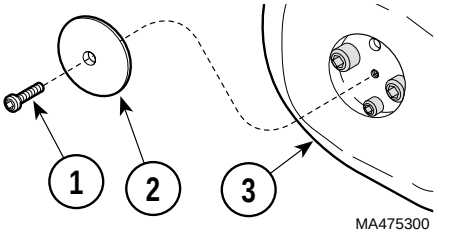
4. Using a cotton glove or similar clean cloth, grasp the new bulb (4) (supplied) and insert the bulb into the bulb socket (5). Push the bulb in until its prongs bottom out; there should be approximately 1/16 in. [1.6 mm] gap between bulb socket and glass base of bulb. Forcing the bulb in further will cause damage.

NOTE
The top cap is keyed which allows it only to be installed in one position.

5. Align the key (A) of the top cap (2) with key hole (B) in support arm pivot (3). Then, secure top cap (2) on support arm pivot (3) by tightening three captive screws (1). Make sure wiring (6) is tucked up above light block as much as possible and does not hang down into path of light.

Housing Cap Installation

1. Install housing cap (2) on ballast housing (3) and secure with screw (1).



Electrical Requirements

WARNING

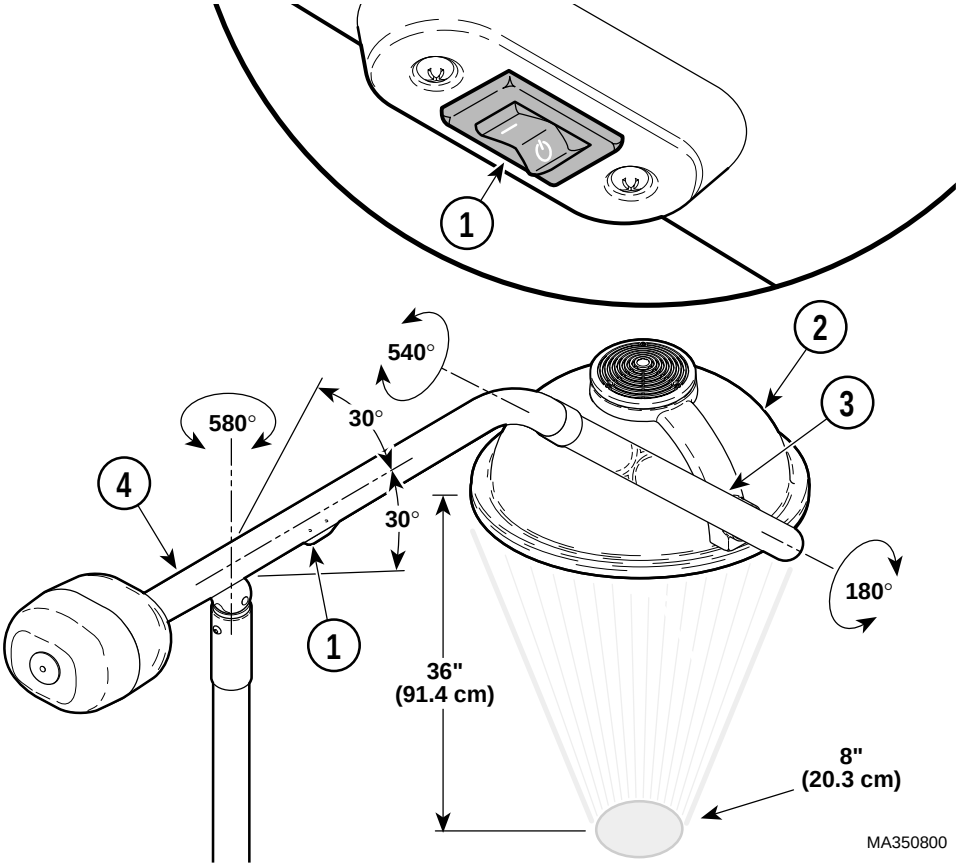
Use 115 VAC, 60 HZ alternating current only. Failure to do so could result in electrical shock to personnel and will result in damage to mobile light system.

NOTE

Grounding reliability can only be achieved if this equipment is connected to an equivalent receptacle marked Hospital Grade (NEMA 5-15R, HOSPITAL GRADE).

The electrical rating for the mobile light system is 115 VAC, 60 Hz, 1.25 amps. The three-pronged grounding plug on the power cord must be plugged into a matching three-pronged, grounded, correctly polarized 115 VAC receptacle.

Operational Test



1. Turn the ON / STANDBY switch (1) to ON "**I**".

2. Observe. The lighthead (2) should illuminate.

3. Position the lighthead (2) 36 in. (91.4 cm) from a table and aim the light beam at the table.

4. Observe. There should be an evenly distributed circular pattern of bright light, approximately 8 in. (20.3 cm) in diameter, on the table surface.

5. Rotate the lighthead (2), lamp tube (3), and cross tube (4) through their range of motions as shown on the illustration. Release the lighthead at different positions.

6. Observe. The lighthead (2) should be able to be positioned easily through the entire range of its motion. When the lighthead is released in any position, no drifting should occur at any axis.

7. Turn the ON / STANDBY switch (1) to STANDBY "⏻".

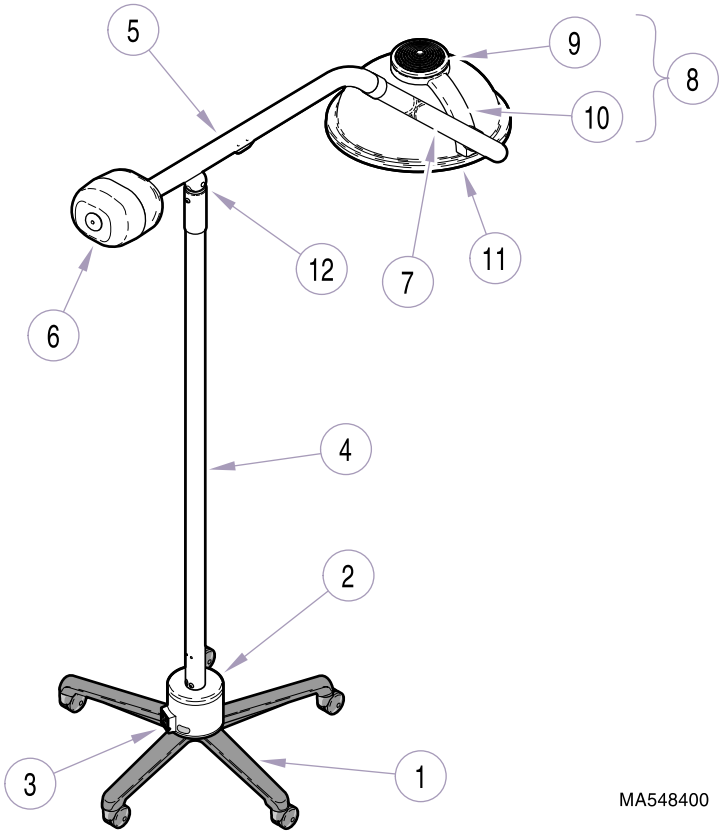
8. If any problems are discovered, refer to the troubleshooting guide for adjustment and repair tips.

DESCRIPTION

Introduction / Features

The 355 lighthead assembly is a fixed-focus, faceted reflector lighthead. The faceted reflector design provides excellent cavity penetration, while also controlling shadows from light-blocking objects. The individual beams of light are arranged to provide an evenly illuminated 8 in. (20.3 cm) diameter beam at a distance of 36 in. (91.4 cm). The peak illumination at 36 in. (91.4 cm) is 4,000 fc. The optical system also filters out most of the infrared heat from the prefocused pattern of light. The plastic handle can be easily removed for sterilization or it accepts a Devon EZ Handle™ without requiring an awkward adapter. The lighthead is made with a color molded, lightweight polymer resulting in a very lightweight lighthead which is easy to position. The arm assembly has been precisely designed, assembled, and balanced so that the lighthead can be positioned with minimal force and no drifting. In addition, three pivot points make the positioning of the lighthead easy and flexible.

COMPONENTS OVERVIEW



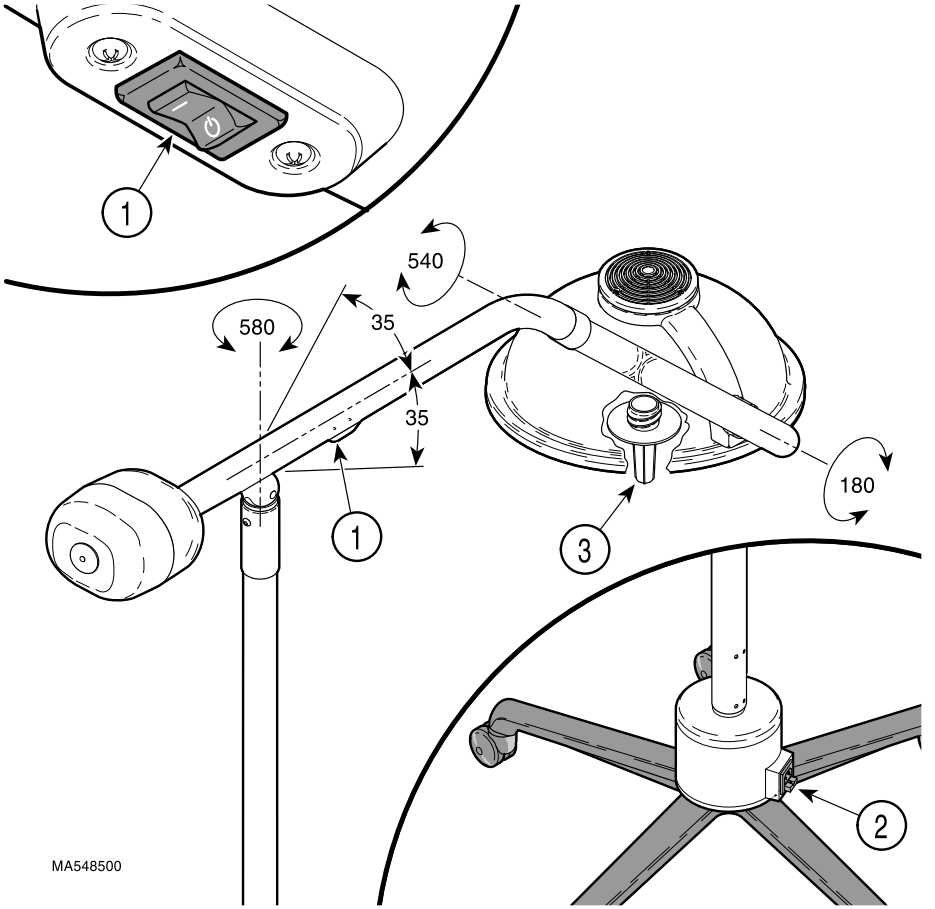
The illustration below shows the location of the light's major components and the chart below provides their descriptive name.

DESCRIPTION OF COMPONENTS

1. Caster Base Assembly	7. Lamp Tube Assembly
2. Transformer Housing Assembly	8. Lighthead Assembly
3. AC Inlet / Fuse Drawer	9. Top Cap Assembly
4. Vertical Tube	10. Support Arm Pivot Assembly
5. Cross Tube Assembly	11. Faceplate Assembly
6. Ballast Assembly	12. Ball Pivot Joint

CONTROLS & INDICATORS

The following illustration shows the location of the light's controls and indicators and the chart below describes their function.



Ref.	*Control / Indicator*	*Function*
1	*on / standby switch (on "**I**" / standby "⏻")*	*turns the light on or off.*
2	*fuse drawer*	*can be removed and inspected to determine if fuse has been blown, indicating a current surge or problem with light.*
3	*sterilizable handle*	*allows sterile personnel to move lighthead.*

OPERATION

WARNING
If the 355 mobile light system malfunctions, immediately turn the ON / STANDBY switch to STANDBY "⏻" and unplug the power cord.

Operating Lighthead Assembly

Turn the lighthead on by switching the ON / STANDBY switch to ON "**I**". To adjust the position of the lighthead, grasp the sterile handle (3) and rotate the arm assembly and lighthead as necessary to obtain correct light position on the patient (See previous figure for amount of rotation for an axis). To turn off the lighthead, switch the ON / STANDBY switch to STANDBY "⏻".

Moving Mobile Light System

WARNING
The mobile light system is very stable when it is stationary and when pushed on smooth surfaces. However, when the mobile light system is being transported, it can become susceptible to tipping when it is pushed over a threshold or other similar obstruction. Failure to use care when navigating over thresholds, obstructions, or carpet could result in the mobile light system tipping and causing severe personal injury or damage to mobile light system. Grasping the vertical tube at waist height or lower during movement will help stability during movement.

To move the mobile light system to a new area or room, simply unplug the light's power cord from the outlet receptacle, coil and hold power cord, and then grasping the vertical tube at approximately waist height or lower, push the mobile light system to desired area.

OPERATOR MAINTENANCE

Operator Troubleshooting

Problem	*Possible Cause*	*Solution*
no light from lighthead	*lighthead is on standby "⏻"*	*turn on / standby switch to on "* **I***"*
no light from lighthead; on / standby switch is on " **I***"*	*bulb has burned out or has not been installed*	*refer to bulb installation procedure in this manual*
	fuse is blown	*refer to the fuse replacement procedure in this manual*
	no power to the transformer housing assembly	*check to make sure power cord is plugged in. Then call your building maintenance electrician to check for facility power at the electrical receptacle.*
	transformer is malfunctioning	*call Midmark Technical Support: 1-800-Midmark*
no light from lighthead although the bulb and fuse were checked; lighthead flashes intermittently when lighthead or arms are moved	*circuit or wiring problem within arm assemblies, transformer housing assembly, or other part of lighting system*	*call Midmark Technical Support: 1-800-Midmark*
lamp tube or lighthead does not rotate freely or drifts when released in desired position	*brakes for the suspect axis need adjustment*	*call Midmark Technical Support: 1-800-Midmark*
cross tube rotates (at ball pivot joint) too stiffly or drifts when released in desired position	*tension needs to be adjusted or cross tube counterbalance needs to be adjusted*	*refer to tension adjustment procedure in this manual. If proper tension cannot be achieved, call Midmark Technical Support: 1-800-Midmark.*
squeak coming from movement of the ball pivot.	*residue build-up on ball pivot*	*Lower the ball pivot sleeve. Wipe the ball pivot with a clean, dry rag. Reinstall the ball pivot sleeve.*

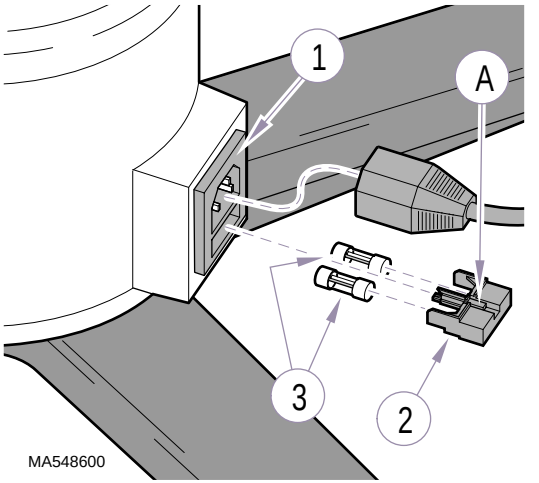
Preventive Maintenance

The following preventive maintenance schedule should be followed. If and when problems are detected, refer to the troubleshooting guide in this manual.

FREQUENCY	ACTIVITY
monthly	Inspect casters for breaks, cracks, or wear. Replace casters as necessary.
semiannually	Inspect rotation of lighthead. Make sure the lighthead rotates freely, without noise, and has 180° of rotation at lamp tube connection. Make sure the lighthead stays positioned at any point (without drifting) with respect to the lamp tube. See figure in the Controls & Indicators section.
semiannually	Inspect the rotation of the lamp tube and cross tube. Make sure the arm assembly rotates freely and without noise. Make sure the arm assembly doesn't drift at any point in its range of motion. The lamp tube should have 540° of rotation at cross tube connection. The cross tube should have 580° of rotation at vertical tube connection and should also have a vertical range of motion from -35° to +35°. See figure in the Controls & Indicators section.
semiannually	Turn light ON. Rotate lighthead, lamp tube, and cross tube while observing lighthead. Lighthead should not intermittently flicker or stop illuminating while joints are being rotated.
semiannually	Check for excessive joint rotation (more than 540° of rotation at lamp tube connection or 580° of rotation at cross tube connection). If there is excessive rotation, the physical stops for an axis may be broken.
semiannually	Inspect faceplate and inside of lighthead for indications of broken material or other signs of damage. If damage to any part of lighthead is evident, do not continue to use lighthead. Using lighthead with a broken IR filter could result in tissue burns to patients.
semiannually	Inspect lighthead for excessive dust or grime buildup in lighthead interior. Do not attempt to clean or disinfect; instead call an authorized dealer or service technician.

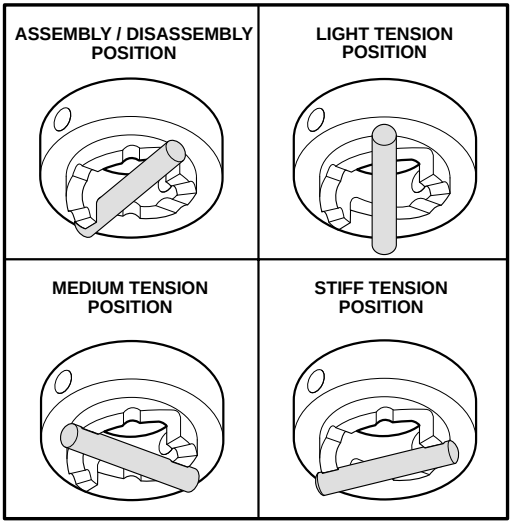
FREQUENCY	ACTIVITY
Semiannually	Move the cross tube up and down while listening for squeaks coming from the ball pivot area. If squeaks are heard, lower the ball pivot sleeve and wipe the ball pivot sleeve with a clean, dry rag (wipe even if ball pivot appears clean). Repeat the test. If no squeaks are heard, reinstall the ball pivot sleeve.

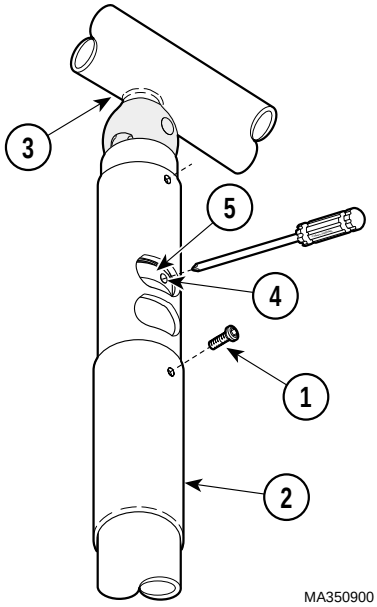
Fuse Replacement Procedure



1. Turn the ON / STANDBY switch to standby "⏻" and unplug light power cord from AC inlet (1).
2. While simultaneously pushing in on locking tab (A), pull fuse drawer (2) from AC inlet (1).
3. Pull two fuses (3) out of fuse drawer (2).
4. Inspect fuses (3) for any indication that it has been blown; i.e. burnt look, fuse cord melted through, etc. Discard fuse.
5. Obtain new fuses of the same voltage rating, amperage rating, and type. Refer to the Specifications section in this manual for the fuse specification.
6. Insert one end of the new fuses (3) into the fuse drawer (2).
7. Insert fuse drawer (2) into AC inlet (2) until it locks into place; you should hear a light clicking sound.
8. Plug light power cord into AC inlet (1), turn ON / STANDBY switch to ON "**I**", and check for light output. If fuse blows again, call Midmark Technical Service (see calling for service in this manual).

Ball Pivot Tension Adjustment Procedure





1. Remove screw (1) and slide ball pivot sleeve (2) down out of way.

2. Rotate cross tube (3) until adjustment hole (4) appears in the adjustment window opening.

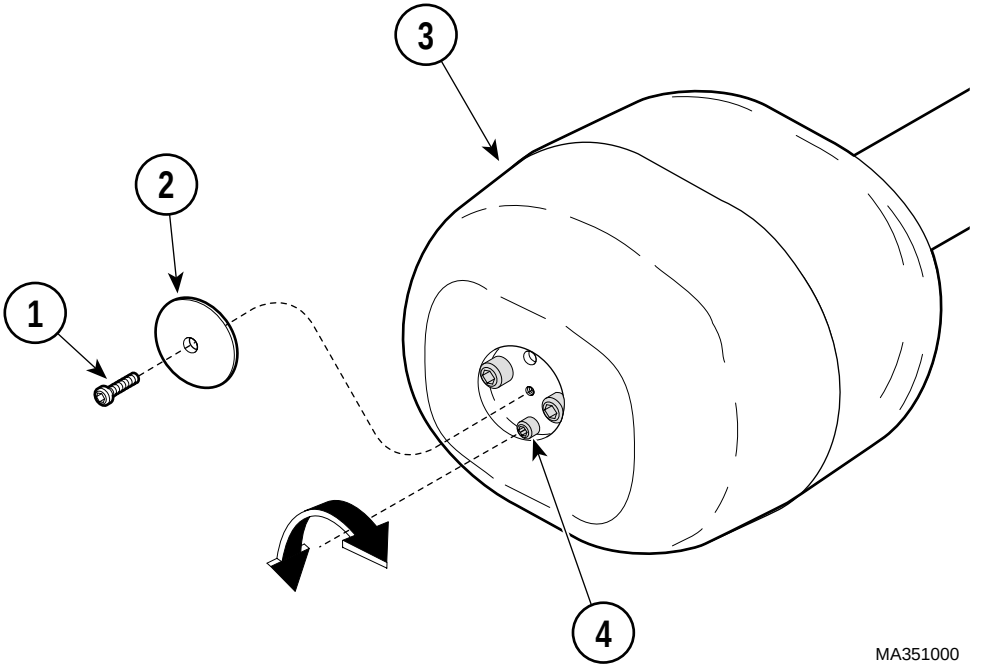
NOTE
There are three settings which the ball pivot cam (5) can be set for: light tension, medium tension, or stiff tension (see above figure). These settings may be changed according to the operator's preference.

3. Insert screwdriver into adjustment hole (4). Then, using the screwdriver, rotate ball pivot cam (5) to the desired tension setting.

4. Remove the screwdriver and move the cross tube (3) about the ball pivot joint in a circular motion and up and down motion to ensure the setting is the one desired. Move the cross tube (3) to a horizontal position and release it. The cross tube should not drift in any direction. If it does, a higher tension setting is required or the cross tube counterbalance needs adjusted (see counterbalance adjustment in this manual). Repeat steps 3 and 4 until the desired tension adjustment is achieved with no drifting of the cross tube.

5. Slide ball pivot sleeve (2) up into position and secure with screw (1).

Cross Tube Counterbalance Adjustment



1. Remove screw (1, see previous figure) and slide ball pivot sleeve (2) down out of way.

2. Rotate cross tube (3, see previous figure) until adjustment hole (4) appears in the adjustment window opening.

3. Insert screwdriver into adjustment hole (4, see previous figure). Then, using the screwdriver, rotate ball pivot cam (5) to the assembly / disassembly setting. Remove the screwdriver.

4. Remove screw (1, see figure above) and housing cap (2) from ballast housing (3).

NOTE
One way to determine if cross tube is balanced properly is to raise the cross tube above the horizontal plane, release it, and observe where it stops. Then, lower the cross tube below the horizontal plane, release it, and observe where it stops. The cross tube should return to the horizontal position and remain there; if it does, the cross tube counterbalance is adjusted properly.

Turning screw (4) in clockwise direction will raise the lighthead end of the cross tube. Turning screw (4) in counterclockwise direction will lower the lighthead end of cross tube.

5. Using a 3/16” hex (Allen) wrench, adjust screw (4) until cross tube (5) balances in a horizontal position.

6. Install housing cap (2) on ballast housing (3) and secure with screw (1).

NOTE
It is recommended that you start with the light setting and then proceed to the medium or stiff setting only if necessary to prevent drifting.

7. Insert screwdriver into adjustment hole (4, see figure of previous paragraph). Then, using the screwdriver, rotate ball pivot cam (5) to the light, medium, or stiff setting as desired by the operator(s). Remove screwdriver.

8. Slide ball pivot sleeve (2) up into position and secure with screw (1).

Cleaning and Disinfecting

EQUIPMENT ALERT

When cleaning or disinfecting the light, remove power from the light, allow optical unit to cool, and do not touch glass portion of bulb or inner components of lighthead with bare hand. Clean EXTERNAL SURFACES ONLY (arm assemblies and lighthead). Prevent fluids from leaking into interior or onto electrical contacts. DO NOT ATTEMPT to clean or disinfect interior; instead call an authorized dealer or service technician.

EQUIPMENT ALERT

Use only quaternary disinfectants to disinfect light. Staining, pitting, discoloration, or softening could occur if phenolic, iodophor, or glutaraldehyde-based disinfectant is used on plastic surfaces of the lighthead. Also, use of alcohol or aerosol spray cleaner / disinfectant containing substantial amounts of alcohol in the formula can damage the faceplate.

External Cleaning Procedures

For general cleaning, use a mild detergent and water solution. Wring excess solution from sponge or cloth before wiping.

According to your facility's procedure:

1. Clean faceplate with an antistatic acrylic cleaning solution using a soft, clean cloth. Do not use alcohol or abrasive compounds on faceplate.

2. Wipe external surface of arm assemblies and lighthead with a mild detergent and water solution.

3. Rinse all external surfaces with a soft cloth and clear water, wringing excess from cloth before wiping.

4. Wipe all external surfaces dry.

External Disinfecting Procedures

According to your facility's procedure:

1. Use only quaternary disinfectants to disinfect light. Staining, pitting, discoloration, or softening could occur if phenolic, iodophor, or glutaraldehyde-based disinfectant is used on plastic surfaces of the lighthead. Also, use of alcohol or aerosol spray cleaner / disinfectant containing substantial amounts of alcohol in the formula can damage the faceplate.

2. Wring excess solution from cloth.

3. Using soft cloth, wipe all external surfaces of arm assemblies and lighthead.

4. Do not rinse or dry external surfaces. Allow disinfectant solution to air dry.

Handle Sterilization

- Use only steam sterilization on the handle.
- Follow sterilization instructions of sterilizer manufacturer.

CALLING FOR SERVICE

If you are having a problem or have a question, refer to the inside front cover of this manual and call your dealer. Make sure that you have the information that is highlighted on the inside front cover of this manual available. If you can't resolve your question or problem with your dealer, call the following number:

1-800-Midmark (1-800-643-6275)

8:00 a.m until 5:00 p.m. (Eastern Standard time in the U.S.)

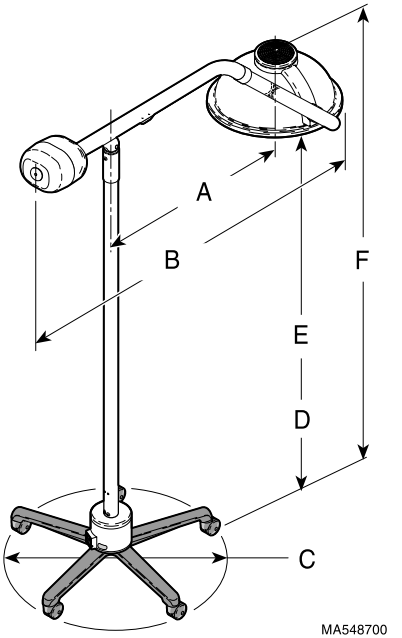
Monday thru Friday, except for standard U.S. holidays.

SPECIFICATIONS

Model 355 Mobile Light

Beam diameter @ 36 in. : ..... 8 in. (20 cm)
(91 cm)..... (defined by 20% of peak illumination)
Bulb:..... 24 VAC, 100 W halogen bulb
Color temperature:..... 4,200K
Diameter of lighthead: ..... 17 in. (43.2 cm)
Focal length:..... 36 in. (91.4 cm)
Illumination @ 36 in. (91.4 cm): ... 4,000 fc / 43,000 lux
Electrical requirement: ..... 120 VAC, 60 HZ, 1.25 amps, single phase

"A" Reach of arm assemblies: ..... 26 in. (66 cm) maximum from centerline of vertical tube to center of lighthead.
"B" Length of counterbalance: .... 48 in. (122 cm)
"C" Width of caster base: ..... 28 in. (71 cm)
"D" Minimum lighthead height:.... less than 48 in. (122 cm)
"E" Maximum lighthead height: ... greater than 74 in. (188 cm)
"F" Maximum overall height:..... less than 86 in. (218 cm)
Rotation of lighthead: ..... 180° rotation at lamp tube connection
Rotation of lamp tube: ..... 540° rotation at cross tube connection
Rotation of cross tube: ..... 580° rotation at vertical tube connection
Vertical range of cross tube: ..... -35° to +35° vertical movement
Box dimensions:..... 61 in. "L" x 30.5 "W" x 10.5 "H"
154.9 cm x 77.5 cm x 26.7 cm
Unboxed weight:.... 59 lbs (26.8 kg)
Power cordset..... 96 in. (2.4 m) long with hospital grade grounding type plug
Certifications: ..... CLASSIFIED c UL us Classified by Underwriters Laboratories Inc. with respect to electric shock, fire, and mechanical hazards only in accordance with UL2601-1 and CAN/CSA C22.2, No.601.1.
ISO-9001 Certified
Classifications:..... Class 1, Type B applied part, Ordinary Equipment, Continuous Operation
Fuse Rating:..... 1.6 amp, 250 VAC, 5mm x 20 mm, Type T low breaking capacity IEC 127-2/3



Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide.

LIMITED WARRANTY

SCOPE OF WARRANTY

Midmark Corporation ("Midmark") warrants to the original purchaser its new Alternate Care products and components (except for components not warranted under "Exclusions") manufactured by Midmark to be free from defects in material and workmanship under normal use and service. Midmark's obligation under this warranty is limited to the repair or replacement, at Midmark's option, of the parts or the products the defects of which are reported to Midmark within the applicable warranty period and which, upon examination by Midmark, prove to be defective.

APPLICABLE WARRANTY PERIOD

The applicable warranty period, measured from the date of delivery to the original user, shall be one (1) year for all warranted products and components.

EXCLUSIONS

This warranty does not cover and Midmark shall not be liable for the following: (1) repairs and replacements because of misuse, abuse, negligence, alteration, accident, freight damage, or tampering; (2) products which are not installed, used, and properly cleaned as required in the Midmark "Installation" and or "Installation / Operation Manual for this applicable product. (3) products considered to be of a consumable nature; (4) accessories or parts not manufactured by Midmark; (5) charges by anyone for adjustments, repairs, replacement parts, installation, or other work performed upon or in connection with such products which is not expressly authorized in writing in advance by Midmark.

EXCLUSIVE REMEDY

Midmark's only obligation under this warranty is the repair or replacement of defective parts. Midmark shall not be liable for any direct, special, indirect, incidental, exemplary, or consequential damages or delay, including, but not limited to, damages for loss of profits or loss of use.

NO AUTHORIZATION

No person or firm is authorized to create for Midmark any other obligation or liability in connection with the products.

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